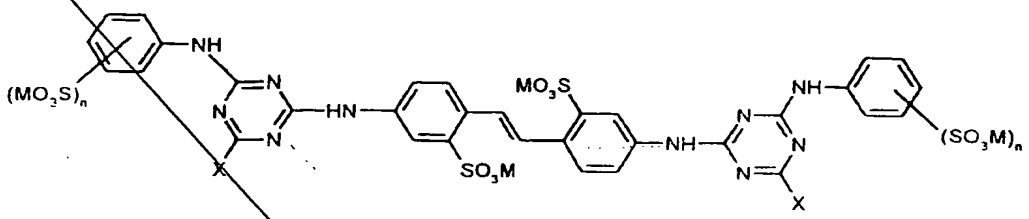
WHAT IS CLAIMED IS:

Amen. A1

1. A process for the preparation of a compound of the formula (I)



(I)

in which

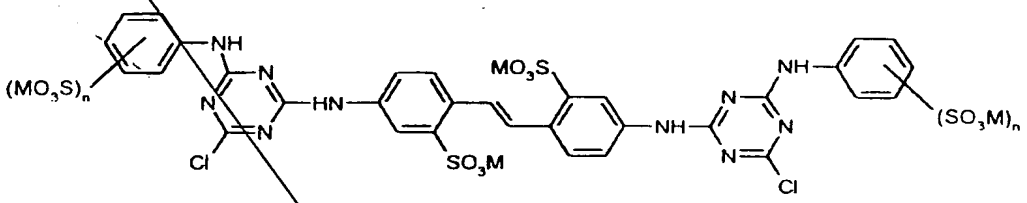
n represents 0, 1 or 2,

M represents hydrogen, an alkali metal ion or an unsubstituted or substituted ammonium ion and

X represents anilino, N-alkylamino or N,N-dialkylamino, the unsubstituted of substituted alkyl radicals with N-alkylamino and N,N-dialkylamino being uninterupted or interrupted by a hetero atom from the series consisting of O, N and S, and, in the case of N,N-dialkylamino, the two alkyl radicals are independently from each other or forming, together with the N atom to which they are bonded, a saturated 5- or 6-membered heterocyclic ring.

20

by reaction of a compound of the formula (IV)



(IV)

wherein M and n have the abovementioned meaning,

with an amine of the formula (V)

X-H (V)

wherein X has the abovementioned meaning,

at a pH of 5 - 10, in the presence or absence of an acid-trapping agent which differs from V, wherein the compound of the formula (IV) is added to an aqueous reaction medium with a temperature of at least 40°C, and in that the amine of the formula (V) and, the acid-trapping agent as far as one is used are added to the aqueous reaction medium independently of one another before and/or during and/or after the addition of IV.

2. The process according to Claim 1, wherein the aqueous reaction medium has a temperature of 60 to 140°C.

3. The process according to Claim 1, wherein the aqueous reaction medium has a temperature of 80 to 100°C.

4. The process according to Claim 1, wherein the reaction is carried out at a pH of 6 to 9.

5. The process according to Claim 1, wherein the reaction is carried out at a pH of 7 to 8.

6. The process according to Claim 1, wherein the compound of the formula IV is employed as an aqueous solution or suspension.

Amen. A2

7. The process according to Claim 6, wherein the aqueous solution or suspension of IV already comprises all or some of the amine of the formula V.

8. The process according to Claim 1, wherein the temperature of the reaction medium is at least 20°C higher than that of the compound IV to be added.

9. The process according to Claim 1, wherein an alkali metal hydroxide, alkali metal carbonate, alkali metal bicarbonate or tertiary amine is employed as the acid-trapping agent which differs from the compound V.

10. The process according to Claim 1, wherein the acid-trapping agent is metered in automatically as a function of the pH.

11. The process according to Claim 1, wherein n represents 0.

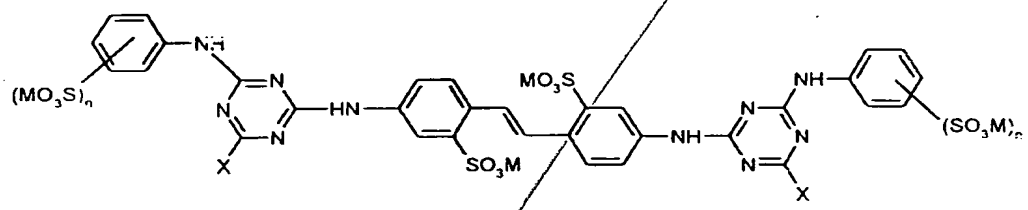
Amen. A3

12. A process for brightening polyamide cellulose and paper, wherein the compound of the formula (I) obtained by one of the processes according to Claims 1 as optical brighteners is applied.

Process for the preparation of substituted 4,4'-diaminostilbene-2,2'-disulphonic acids

Abstract

A process for the preparation of compounds of the formula (I)



(I)

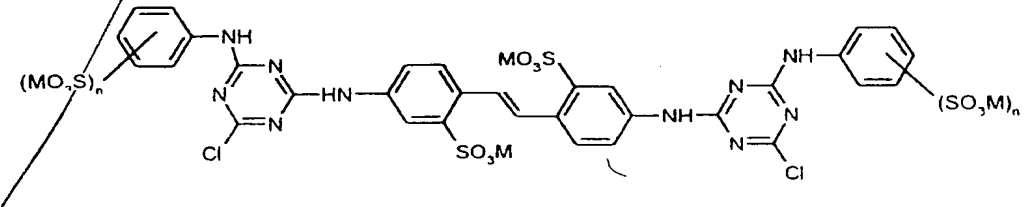
wherein

n represents 0, 1 or 2,

M represents hydrogen, an alkali metal ion or an optionally substituted ammonium ion and

X represents anilino, N-alkylamino or N,N-dialkylamino,

by reaction of a compound of the formula (IV)



(IV)

wherein M and n have the abovementioned meaning,

with 2 molar equivalents of an amine of the formula X-H, wherein X has the abovementioned meaning, at a pH of 5 - 10, if appropriate in the presence of an acid-trapping agent which differs from V, characterized in that the compound of the formula (IV) is added to an aqueous reaction medium with a temperature of at least 40°C and in that the amine of the formula (V) and, if appropriate, the acid-trapping agent are added to the aqueous reaction medium independently of one another before and/or during and/or after the addition of IV, gives compounds of the formula I which are outstandingly suitable as optical brighteners.